

REMARKS

Claims 1, 4-6, and 9-37 were previously pending, of which claims 13-34 had been withdrawn. By this amendment, claims 1, 4-6, 10-12, 36, and 37 are currently amended, no new claims are added, claims 9 and 35 are canceled without disclaimer, and withdrawn claims 13-34 are canceled without prejudice or disclaimer. As a result, claims 1, 4-6, 10-12, 36, and 37 remain pending and are currently under examination. No new matter has been added.

Claim 1 is currently amended to substitute “palladium (II) salt and a ligand co-encapsulated within a permeable polymer microcapsule shell” for “transition metal catalyst and a ligand microencapsulated within a permeable polymer microcapsule shell”. Support for this amended language can be found throughout the specification, including in particular the examples.

Claims 4 and 5 are currently amended only stylistically, by substituting “according to claim 1, wherein” for “according to Claim 1 wherein”.

Claim 6 is currently amended for greater consistency with claim 5 from which it depends; and stylistically, by substituting “according to claim 5, wherein” for “according to Claim 5 wherein”. Claim 6 is also currently amended for greater clarity in respect of recited hydrogenated derivatives of m- and p-phenylene diisocyanate.

Claim 10 is currently amended to depend directly from claim 1.

Claim 11 is currently amended to correct an obvious typographical error in the spelling of “heterocyclyl”. Claim 11 is also currently amended stylistically, by substituting “according to claim 10, wherein” for “according to Claim 10 wherein”.

Claim 12 is currently amended stylistically, by substituting “according to claim 11, wherein” for “according to Claim 11 wherein”.

Claims 36 and 37 are currently amended to substitute “palladium (II) salt” for “transition metal catalyst”, in accordance with the current amendment to claim 1. Claim 37 is also currently amended to substitute “diisocyanate” for “di-isocyanate”, for consistency with other claims. Claims 36 and 37 are also currently amended stylistically, by substituting “according to claim 1, wherein” for “according to Claim 1 wherein”.

Previous Grounds of Rejection

Applicant acknowledges that the Examiner has withdrawn the previous rejection of claim 1 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement, and the previous rejection of claims 1, 4-6, 9-12, and 35-37 under 35 U.S.C. § 102(e) as allegedly anticipated by Ley *et al.*

Claim Rejections under 35 U.S.C. § 112, First Paragraph

Claims 1, 4-6, 9-12, and 35-37 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. In particular, the Examiner asserted that the recitation “at least 1:1” in claim 1 is not adequately supported by the specification. According to the Examiner, “The term ‘at least 1:1’ of the amended claim 1 can be interpreted greater than 100/1 or 1/100.”

Claim 1 as currently amended no longer recites the limitation “at least 1:1”, thereby rendering moot the rejection of claim 1 and all claims dependent therefrom.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 1, 4-6, 9-12, and 35-37 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement.

Claim Rejections under 35 U.S.C. § 103

Claims 1, 4-6, 9-12, and 35-37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ley *et al.* (WO 03/006151) in view of Kobayashi *et al.* (EP 1386663). More particularly, the Examiner asserts that Ley *et al.* teaches a microencapsulated catalyst-ligand system comprising a catalyst and ligands microencapsulated within a permeable microcapsule shell, including a Pd catalyst and phosphine ligands microencapsulated within a permeable polymer microcapsule shell wherein the microcapsule shell is formed by interfacial polymerization. The Examiner further acknowledges that Ley *et al.* does not specifically teach a ratio of metal to ligand at least 1:1 as per applicant claim 1. According to the Examiner, Kobayashi *et al.* teaches microencapsulated metal catalyst comprising a metal catalyst MC Pd(PPh₃), wherein Pd:ligand PPh₃ = 1:1, and it would have been obvious to one of ordinary skill

in the art at the time the invention was made to substitute the Pd/phosphine complex catalyst [of Ley et al.] with MC Pd(PPh₃) of Kobayashi et al. to obtain the invention of claim 1, because the resulting microencapsulated Group VIII catalyst is stable in air, easy to recover, and reusable.

Applicant respectfully traverses, for at least the following reasons. Paragraph [0024] of Kobayashi et al. discloses that the palladium of Pd(PPh₃) is in oxidation state zero (0). As such, the transition metal catalyst of Kobayashi et al. is different from the transition metal catalyst of the claimed invention, i.e., Kobayashi et al. discloses Pd(PPh₃), in which palladium is in oxidation state zero (0), whereas claim 1 as currently amended recites a palladium (II) salt, in which palladium is in oxidation state II (+2). Because Kobayashi et al. does not teach or suggest a palladium (II) salt, the current amendment to claim 1 effectively removes Kobayashi et al.

Moreover, the current amendment to claim 1 specifies, in part, a microencapsulated catalyst-ligand system comprising a *palladium (II) salt and a ligand co-encapsulated* within a permeable polymer microcapsule shell. This claim language makes clear that both a palladium (II) salt and a ligand are present and distinct. If this were not the case, then claim 1 need not recite both the palladium (II) salt and the ligand. Consistent with this claim language, many of the Examples in the instant specification disclose, for example, palladium (II) acetate co-encapsulated with a phosphine-containing ligand.

In contrast to the Examiner's assertion concerning the teachings of Ley et al., Applicant respectfully asserts that Ley et al. discloses palladium (II) acetate microencapsulated *by itself* within a permeable polymer microcapsule shell, i.e., not palladium (II) acetate co-encapsulated with ligand. Accordingly, claim 1 is both novel and non-obvious over Ley et al. by itself.

Furthermore, there is no teaching or suggestion provided by Kobayashi et al., taken either alone or together with Ley et al., that a palladium (II) salt could be co-encapsulated with a ligand within a permeable microcapsule shell, with any reasonable expectation of success.

Claim 1 as currently amended is therefore non-obvious over Ley et al. and Kobayashi et al.

Claims 9 and 35 are canceled by this Amendment. Each of claims 4-6, 10-12, 36, and 37 depends, directly or indirectly, from claim 1. Accordingly, claims 4-6, 10-12, 36, and 37 are also

non-obvious over the combination of Ley et al. and Kobayashi et al.

In view of the above, Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of claims 1, 4-6, 9-12, and 35-37 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ley et al. in view of Kobayashi et al.

FEES

Applicant believes it has submitted herewith a fee in the required amount in connection with the filing of this paper. Nevertheless, the Director is hereby authorized to charge any additional required fee or credit any overpayment in connection with this Amendment to our Deposit Account, **06-1448**, Reference **HGX-012.01**.

CONCLUSION

In light of the foregoing amendments and remarks, it is respectfully submitted that the pending claims are in condition for allowance. Reconsideration and allowance of the pending claims is respectfully solicited. If a telephone interview would be helpful, the Examiner is invited to call the undersigned at the number shown below.

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Respectfully submitted,

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